REMARKS

Restriction/Election

On August 29, 2007, a provisional election was made with traverse to prosecute the invention of Group I, claims 1-4. Applicants acknowledge the election of Group I, claims 1-4, with traverse. In the restriction, the Examiner alleged as follows:

> The inventions listed as I-II do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: the common technical feature in all groups is the method of treating the spent potliner. This element cannot be a special technical feature under PCT Rules 13.2 **because the element is shown in the prior art. WO 01/1 8276 discloses a worked Mo alloy (abstract), which is substantially identical to the claimed worked Mo alloy.** Inventions I-II lack the same or corresponding special technical features. Therefore unity of invention is lacking and restriction is appropriate.

Thus, the restriction is based on anticipation or obviousness of the claimed invention. The novelty and unobviousness of the present invention is discussed below regarding the rejection under 35 USC §103(a).

As discussed below, claim 1 patentably distinguishes over WO 01/18276 and JP 11-286770. Therefore, claim 1 and claim 5 satisfy the combination of categories provided at 37 CFR 1.475(b).

Thus, all claims satisfy the unity of invention.

Rejections under 35 USC §103(a)

Claims 1-4 are rejected under 35 USC §103(a) as being obvious over Takada et al (WO 01/18276) in view of JP 11-286770.

The Examiner alleged as follows:

> Takada et al. ('368) does not disclose that the worked Mo alloy material comprises a Mo nitride layer at the surface of the worked Mo alloy material as claimed. JP ('770 A) discloses a Mo alloy with a Mo nitride layer at the surface (abstract). It would have been obvious to one of ordinary skill in the art at the time the invention was made to form a Mo nitride layer at the surface of the worked Mo alloy material of Takada et al. ('368) as disclosed by JP ('770 A) in order to improve the corrosion resistance of the worked Mo alloy material of Takada et al. ('368) as disclosed by JP ('770 A) (abstract).

However, Takada et al explains as follows:

> According to the manufacturing method of the present invention, in the first nitriding treatment, nitrogen diffuses in the worked piece with keeping the worked structure of the diluted alloy worked piece to **preferably nitride the nitride-forming metal element** incorporated into the parent phase as a solid solution so as to form the ultra-fine nitride particles and disperse them throughout the parent phase. The term "diluted alloy" herein means an alloy including a dissolved element as a solid solution alloy in low concentration or at a small amount of about 5 weight % or less. The term **"preferred nitriding" herein means a phenomenon that not the metal in the parent phase but only the nitride-forming element is nitrided preferably.**
>
> As compared with conventional nitriding processes, the manufacturing method of the present invention is characterized by the multi-step nitriding. **The nitriding treatments in the multi-step nitriding according to the present invention provide different effects, respectively.** . . .

(See USP6,589,368, column 4, lines 11-28). Thus, Takada et al discusses "preferred nitriding," and the description indicates that the parent phase, **Mo, is not nitrided because of the preferred nitriding**. Therefore, a person of ordinary skill in the art would not be motivated to nitride Mo of the alloy material in Takada et al.

Takada et al also indicates that each of the nitriding treatments in the multi-step nitriding according to Takada et al respectively provide different effects. Therefore, additional different nitriding treatment can have adversely effect. Even if a person of ordinary skill in the art is aware of JP 11-286770, there is no reason for the person to combine the teaching of Takada et al with the teaching disclosed in JP 11-286770.

The inventors found that external nitriding under a strong nitriding atmosphere makes it possible to form a molybdenum nitride layer on the molybdenum alloy material containing nitride-forming-metal element dissolved in a molybdenum matrix and also found that the worked molybdenum-alloy material thus obtained has further excellent corrosion resistance against oxidizing acids in addition to high strength and high toughness was effectively and inexpensively produced.

Moreover, claim 1 has been further amoded to recite, among other things, "a molybdenum nitride layer on the nitride-particle-dispersed layer, the molybdenum nitride layer having a thickness of 3 μm or less, the molybdenum nitride layer comprising one or more selected from δ-MoN, γ-Mo_2N, and β-Mo_2N, the molybdenum nitride layer being formed by ~~subjecting~~ external nitriding of a worked structure or a recovered structure at the surface of the untreated worked molybdenum-alloy material." The amendment is supported in the original specification at page 10, line 23 to page 11, line 8 (it is clear that "about 3mm or less" at page 11 line 7 is a typographical error of "about 3μm or less"). This feature is not disclosed in WO 01/18276 and JP 11-286770.

For at least these reasons, claim 1 patentably distinguishes over WO 01/18276 and JP 11-286770. Claims 2-4, depending from claim 1, also patentably distinguish over WO 01/18276 and JP 11-286770 for at least the same reasons.

New Claim

A new claim 7 has been added. Claim 7 differs from claim 1 in that while claim 1 recites "a **recrystallized structure** inside the worked molybdenum-alloy material," claim 7 recites "a **worked structure without recrystallization** inside the worked molybdenum-alloy material."

In view of the aforementioned amendments and accompanying remarks, Applicants submit that the claims, as herein amended, are in condition for allowance. Applicants request such action at an early date.

If the Examiner believes that this application is not now in condition for allowance, the Examiner is requested to contact Applicants' undersigned attorney to arrange for an interview to expedite the disposition of this case.

If this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. The fees for such an extension or any other fees that may be due with respect to this paper may be charged to Deposit Account No. 50-2866.

Respectfully submitted,

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